

NIKITIN, V. A., ROMOFILOV, A. A., SVIRIDOV, V. A., SLEPETS, A. and STRUNOV, L. N.

"Differential Cross Section of the Elastic π^-p -Scattering of Mesons with the Momentum 3,8 GeV/c on Small Angles and Inelastic π^-p -Scattering with a Small Momentum Transfer"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Institute For Nuclear Research
Laboratory of High Energies, Dubna, 1962

NOMOFILOV, A.A.

KIRILOVA, L.P., NIKITIN, V.A., NOMOFILOV, A.A., SVIRIDOV, V.A., STERNOV, L.R.,
TSIGANOV, Ye. N., and SHAFAROVA, M.G.

"Elastic Proton-Proton Scattering at 6 and 10 GeV"

report presented at the Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Joint Inst. for Nuclear Research
Laboratory of High Energies, Dubna, 1962

KIRILLOVA, L.F.; NIKITIN, V.A.; NOMOFILOV, A.A.; SVIRIDOV, V.A.;
STRUNOV, L.N.; SHAFRANOVA, M.G.

Elastic scattering of protons at small angles at energies of
6 and 10 Gev. Zhur. eksp. i teor. fiz. 45 no.4:1261-1266 0
'63. (MIRA 16:11)

1. Ob"yedinennyy institut yadernykh issledovaniy.

NIKITIN, V.A.; NOMOFILOV, A.A.; SVIRIDOV, V.A.; STRUNOV, L.N.;
SHAFRANOVA, M.G.

Use of a thin $(CH_2)_n$ film as an internal proton-synchrotron
target in studying elastic p - p-scattering. Pr.b. 1 tek.
eksp. 8 no.6:18-22 N-D '63. (MIRA 17:6)

1. Ob'yedinennyy institut yadernykh issledovaniy.

NIKITIN, V.A.; NOMOFILOV, A.A.; SVIRIDOV, V.A.; SLEPETS, L.A.; SITNIK, I.M.;
STRUNOV, L.N.

Measurement of the real part of the amplitude of elastic π^+p -scattering
at an energy of 3.5 Bev. IAd. fiz. 1 no.1:183 Ja '65. (MIRA 18:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.

GINDLIN, I., inzh.; SAKHAROV, V., inzh.; NOMOFILOV, S., inzh.

Prefabricated ice skating rink made of aluminum tube-sheet
panels. Khol.tekh. 37 no.1:11-14 Ja-F '60. (MIRA 13:5)
(Skating rinks)

NOMO F I L O V, S. I.

2-0

PHASE I BOOK EXPLOITATION SOV/5685

Fridlyander, I. N., Doctor of Technical Sciences, and B. I. Matveyev, Candidate of Technical Sciences, eds.

Teploprochnyy material iz spechennoy alyuminiyevoy pudry [SAP]; sbornik statey (Heat-Resistant Material From Baked Aluminum Powder [SAP]; Collection of Articles) Moscow, Oborongiz, 1961. 122 p. Errata slip inserted. 3,550 copies printed.

Reviewers: M. F. Bazhenov, Engineer, and M. Yu. Bal'shin, Candidate of Technical Sciences; Ed.: M. A. Bochvar, Engineer; Ed. of Publishing House: S. I. Vinogradskaya; Tech. Ed.: V. I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This collection of articles is intended for scientific workers and engineers in the institute and plant laboratories of the metallurgical and machine-building industry; it may also be useful to instructors and advanced students.

COVERAGE: The 12 articles contain the results of research on the structure, properties, and manufacture of semifinished products
Card 1/5

Heat-Resistant Material From (Cont.)

SOV/5685

20

from sintered aluminum powder. The technology for the manufacture of aluminum powder and briquets is described as are sintering processes, and pressing, rolling, drawing, and sheet-stamping methods. The dependence of the properties of semifinished products on the aluminum-oxide content of the powder, on the degree of hot and cold deformation, and on the stresses of pressing is investigated. Also investigated are the mechanical and corrosive properties of semifinished products, the mechanism of hardening of sintered aluminum powder, the reasons for blister formation, and the possibility of recrystallization. Data on sintered aluminum alloys are included. No personalities are mentioned. References in the form of footnotes accompany the articles.

TABLE OF CONTENTS:

Introduction

3

Gerchikova, N. S., N. I. Kolobnev, M. G. Stepanova, and I. N. Fridlyander. Effect of Aluminum-Oxide Content on the Structure
Card 2/5

Heat-Resistant Material From (Cont.)

SOV/5685

and Properties of Pressed Articles From SAP [Sintered Aluminum Powder]

Stepanova, M. G., G. P. Zenkov, Ye. M. Lekarenko, and L. A. Sarul'. Aluminum Powder for SAP

The work was carried out with the participation of G. N. Pokrovskaya, Chief of TsZL; R. V. Nesterenko, Acting Chief of the Shop; and Engineers L. I. Kibitova, N. D. Chumak, and N. I. Kolobnev.

Matveyev, B. I., M. G. Stepanova, and N. I. Kolobnev. Effect of Specific Pressure in Pressing on Properties of Semifinished Products From SAP

Matveyev, B. I., S. I. Nomofilov, and V. A. Shelamov. Pressing of Semifinished Products From SAP

The work was carried out with the participation of Engineers A. V. Fedotova and I. R. Khanova, and Senior Technician L. S. Perevyazkin.

Card 3/5

Heat-Resistant Material From (Cont.)	SOV/5685	
Gorelik, S. S., A. I. Litvintsev, and E. P. Belova. Special Features of Recrystallization of Sintered Aluminum Powder (SAP)		88
Litvintsev, A. I., and V. M. Polyanskiy. On the Nature and Mechanism of Blister Formation in SAP		100
Matveyev, B. I., P. V. Kishnev, and I. R. Khanova. Properties of Semifinished Products From Sintered Aluminum Powder		108
Krivenko, R. A., Ye. A. Kuznetsova, and I. N. Fridlyander. Sintered Aluminum Alloys		113
AVAILABLE: Library of Congress		

Card 5/5

JA/wro/jw
10-27-61

S/2981/63/000/002/0078/0086

ACCESSION NR: AT4012716

AUTHOR: Kishnev, P. V.; Matveyev, B. I.; Marty*nova, N. A.; Nomofflov, S. I.;
Bazurina, Ye. Ya.; Shalamov, V. A.

TITLE: Properties and structure of wire made of SAP

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*.
Moscow, 1963, 78-86

TOPIC TAGS: powder metallurgy, sintered powder, aluminum powder, sintered
aluminum powder, SAP, SAP wire

ABSTRACT: Fastenings designed for use with heat-resistant materials such as SAP should have the same thermal properties. The authors therefore developed a technique for manufacturing SAP wire which can be used for rivets, for example, and studied its structure and mechanical properties. Grade PP-4 aluminum powder (chemical content: 4-5% Al_2O_3 , 0.06% Fe, 0.26% fats, 0.016% moisture, the rest - aluminum) was used for manufacturing a test series of calibrated wire, gauge 3, 4 and 5 mm. This material has been found suitable for rivets. After drawing, the gauged wire of 3, 4 and 5 mm had a tensile strength of 25-30 kg, mm² at 20C and a

Card 1/2

NOMOFILOV, YE. V., IBRAGIMOV, M. YH. and SUBBOTIN, V. I.

"Measurement of turbulent temperature pulsations in a liquid flow."

Report presented at the 1st All-Union Conference on Heat- and Mass- Exchange,
Minsk, BSSR, 5-9 June 1961

SUBBOTIN, V.I.; IBRAGIMOV, M.Kh.; IVANOVSKIY, M.N.; ARNOL'DOV, M.N.;
NOMOFILOV, Ye.V.; ATENKOV, S., tekhn. red.

[Heat transfer and turbulent heat transport in a flow of liquid
metals; Conference on Heat and Mass Transfer, Minsk, January
23-27, 1961] Teplootdacha i turbulentnyi perenos tepla v potoke
zhidkikh metallov; soveshchanie po teplo-i massootmenu, g. Minsk,
23-27 yanvaria 1961 g. Minsk, 1961. 18 p. (MIRA 15:2)
(Heat-Transmission) (Liquid metals)

29918
S/594/61/000/000/006/011
D234/D303

26.5000 (also 149P)

AUTHORS: Subbotin, V.I., Ibragimov, M.Kh. and Homofilov, Ye.V.
(Moscow)

TITLE: Measuring turbulent pulsations of temperature in a
stream of liquid

SOURCE: Soveshchaniye po teplo- i massoobmenu. Minsk, 1961.
Tezisy dokladov i soobshcheniy (Dopolneniye), 38-39

TEXT: Turbulent pulsations of temperature in the flow of
liquid metal and water in a pipe were measured. The amplitude of
temperature pulsations obey Gauss Law of Normal Distribution. A
variation of the amplitude of the pulsations with the radius was ✓
detected which, in the range of maximum amplitudes, agrees with the
hypothesis that the magnitude of the pulsations is proportional to
the length of the path of mixing and to the gradient of the averag-
ed temperature field. At all points of the turbulent stream the
intensity of the pulsation decreases with the increase of the num-

Card 1/2

29918

S/594/61/000/000/006/011
D234/D303

Measuring turbulent pulsations...

ber Re. Mean frequency of the pulsations varies little with the cross section of the stream. Temperature pulsations were found in the layer at the wall of the pipe and in the wall. It is shown that the thickness of the layer at the wall varies continually in an accidental manner, but the layer does not disappear completely. If there is stationary cooling the process of heat transfer through the layer at the wall and the surface of heat exchange is quasi-stationary. Increase of mean frequency of the pulsations in the wall and in the stream was found from zero values ($Re < 2000$) to approximately 1 cycle (for $Re \approx 2300$) which indicates that a turbulent regime of flow appears. [Abstracter's note: Essentially a complete translation]

Card 2/2

29919
S/594/61/000/000/011
D234/D303

26.5000 (also 149P)

AUTHORS: Subbotin, V.I., Ibragimov, M.Kh., Ivanovskiy, M.N.,
Arnol'dov, M.M. and Monofilov, Ye.V. (Moscow)

TITLE: Heat loss and turbulent heat transfer in streams of
liquid metals

SOURCE: Soveshchaniye po teplo- i massoobmenu. Minsk, 1961.
Tezisy dokladov i soobshcheniy (Dopolneniye), 39-41

TEXT: Coefficients of heat loss and turbulent heat trans-
fer were determined on the basis of measuring temperature fields in
streams of various alkaline and heavy liquid metals. The liquid
metals investigated have a sufficiently wide range of measurement
[Abstracter's note: "izmereniye" - probably a misprint of "izmen-
eniye" - change, variation] of the criterium $Pr = 0.005 : 0.05$.
Several experiments with measurement of temperature fields were
made on water. Turbulent pulsations of temperatures in the stream
were found, whose magnitude was up to $\pm 20\%$ of the value of tempera-

Card 1/4

Heat loss and turbulent heat...

²⁹⁹¹⁹
S/594/61/000/000/003/011
D254/D303

ture stress. It was found that the amplitude and frequency of the pulsations depend on the magnitude of heat flow, physical properties, regime of flow of the liquid and dimensionless distance from the wall. Temperature pulsations of the liquid near the wall and of the wall itself indicate that the process of heat transfer through the layer of liquid at the wall and the surface of heat exchange is not rigorously stationary. The values of Nu obtained by processing the measurement data of temperature fields in streams of various liquid metals are in good agreement with one another and with the results of previous investigations. Coincidence of the experimental data with Lyon's formula ✓

$$Nu = 7 + 0.025 Pe^{0.8}$$

(1)

is observed in a sufficiently wide range of the number $Pe = 100 : 12,000$. However, this is not an indication of the unconditional correctness of Lyon's assumption that the ratio of the coefficients of turbulent heat transfer and quantity of motion $\epsilon = \epsilon_t/\epsilon_v$ does not vary across the section of the pipe and is equal to 1 for all

Card 2/4

Heat loss and turbulent heat...

S/594/61/000/000/011
D234/D303

values of the number Pe. Data processing on temperature fields obtained showed that the above ratio varies with the radius of the pipe and depends on the criterium Re. The coefficient of turbulent heat transfer was determined from

$$\epsilon_a = \frac{q_w}{\rho c_p} \frac{r_0}{\delta} - a \quad (2)$$

The ratio of local heat flow and the flow at the wall was found from a relation obtained from the heat balance of an elementary volume of the liquid. In several experiments the coefficient of heat loss was determined by the same methods, in which the thermal contact resistance on the surface of heat exchange was taken into account. The experiments allowed the authors to make a sufficiently clear distinction between two processes which determine the heat transfer to liquid metals. The first process, connected with molecular and turbulent heat transfer, can be described by semi-empirical theories of heat exchange. Such heat transfer is described in

Card 3/4

Heat loss and turbulent heat...

²⁹⁹¹⁹
S/594/61/000/000/008/011
D234/D303

the first approximation by the Martinelli-Lyon theory. The second process, caused by thermal contact resistance on the surface of heat exchange, defies theoretical estimation at present. [Abstracter's note: Complete translation]

Card 4/4

23556

S/096/61/000/007/004/006
E194/E155

21.4240

AUTHORS: Ibragimov, M.Kh., Candidate of Technical Sciences,
Nomofilov, Ye.V., Engineer, and
Subbotin, V.I., Doctor of Technical Sciences.

TITLE: Heat transfer and hydraulic resistance during helical
motion of a fluid in a tube

PERIODICAL: Teploenergetika, 1961, No. 7, pp. 57-60

TEXT: This article describes the influence of the additional
turbulence caused by helical motion of fluid in a tube. The tests
were carried out with water ($Pr > 1$) and liquid metal ($Pr \leq 1$)
which were of different thermal conductivity. Measurements were
made both of heat transfer and hydraulic resistance. The
resistance tests were made in a tube of steel 1X18W9T (1Kh18N9T)
of 12 mm internal diameter, 1020 mm long, with an internal finish
of class 5. Into this were inserted twisted strips of metal to
cause the helical flow. Tests were made with helix pitches of
50.5, 109.5 and 238 mm and with a flat central strip. Resistance-
test results are plotted in Fig.1, in which the black points (1)
correspond to a pitch of 50.5 mm and the circles (2) to the other

Card 1/5

23556

S/096/61/000/007/004/006

Heat transfer and hydraulic resistance. E194/E155

two pitches and the straight strip. It will be seen that the resistance rose sharply as the helix pitch dropped below 109.5 mm. The heat-transfer tests were made in a tube of steel 1Kh18N9T with an internal diameter of 12 mm and a test portion 680 mm long. The latter was enclosed in a ceramic tube wound with an electric strip heater. The internal twisted strips tested had pitches of 50.5 and 109.5 mm, and a flat strip was also used. Heat-transfer test results with water are plotted in Fig. 4, where the experimental points (1) correspond to a pitch of 50.5 mm, points (2) to 109.5 mm, points (3) to a flat strip and points (4) to the tube without any strip. The influence of the twisted spiral on heat transfer with water may be allowed for by introducing a correction factor K_T into Mikheyev's formula

$$Nu = 0.021 Re^{0.8} Pr^{0.43} \left(\frac{Pr_{ct}}{Pr_{\kappa}} \right)^{0.25} K_T \quad (4)$$

The correction factor K_T is given by the following expression:

$$K_T = 1 + A \left(\frac{d_{BH}}{s} \right)^n \frac{1}{Re^m} \quad (5)$$

Card 2/ 5

23556

S/096/61/000/007/004/006

Heat transfer and hydraulic resistance...E194/E155

where: d_{BH} is the internal diameter; s is the pitch; and for values

$$0 \leq \frac{d_{BH}}{s} \leq 0.25 \quad \text{and} \quad 10^4 \leq Re \leq 4 \times 10^4.$$

$$A = 1.13 \times 10^5; \quad n = 1.0 \quad m = 1.2$$

For tubes alone and with untwisted strips, $K_T = 1$. Formula (4) gives satisfactory representation of the experimental results for water. The results for liquid metal worked out in terms of the Nu and Pe criteria are plotted in Fig.6. The two curves correspond to the upper and lower ranges of heat-transfer coefficients published for liquid metals. In Fig.6, points (1) correspond to a pitch of 50.5 mm, points (2) to a pitch of 109.5 mm, points (3) to a straight strip, and points (4) to a tube without strip. It will be seen that in the case of liquid metal which is a good conductor of heat the increased turbulence due to helical flow has no appreciable influence on the heat transfer. There are 6 figures, 1 table and 4 references: 3 Soviet and 1 English. The English language reference reads as follows: Ref.3: R.N. Lyon. Chem. Eng. Progr. Vol.47, No.2, 1951.

Card 3/5

23556

S/096/61/000/007/004/006

Heat transfer and hydraulic resistance...E194/E155

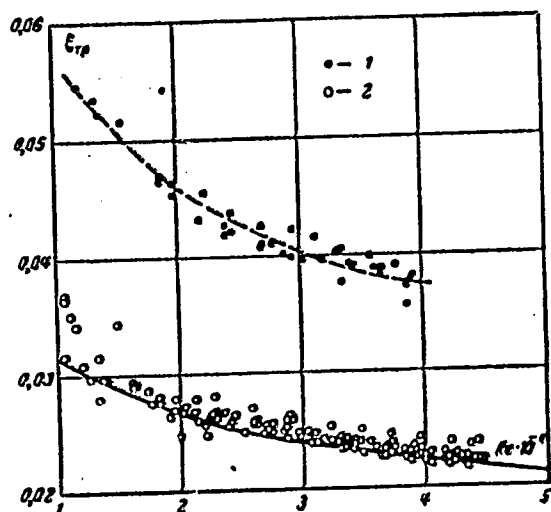


Fig. 1

Card 4/5

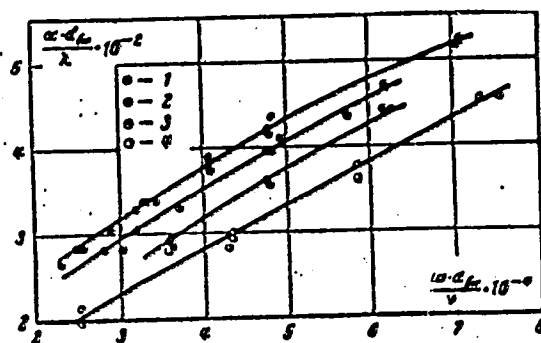


Fig. 4

Fig 4 attached

23556

S/096/61/000/007/004/006

Heat transfer and hydraulic resistance...E194/E155

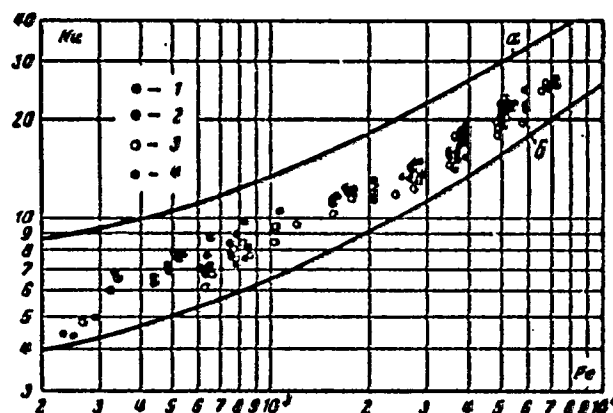


Fig. 6 attached

Fig. 6

Card 5/5

11.3950
11.9200

S/083/61/010/004/016/027
3102/3205

AUTHORS: Subbotin, V. I., Ibragimov, M. Kh., Ivanovskiy, M. N.,
Arnol'dov, M. N., Monofilov, Ye. V.

TITLE: Turbulent heat transfer in a flow of liquid metals

PERIODICAL: Atomnaya energiya, v. 10, no. 4, 1961, 384-386

TEXT: The modern theory of turbulence does not permit an analytic determination of a turbulent heat transfer in a flow of liquid matter. As shown by the present study, the semi-empirical theory of heat transfer which makes use of the analogy of heat transfer and momentum transfer, makes it possible to perform such studies. This can be proved by measuring the temperature fields in liquid metals. On account of the high thermal conductivity of liquid metals, the temperature drop is not limited to a thin, laminated layer like in ordinary liquids but extends to the turbulent core. Martinelli was the first to apply the theory of hydrodynamical analogy to liquid metals, taking into account the molecular heat conductivity in the turbulent core of the flow. Calculations were based on the assumption that the ratio of the coefficients of turbulent heat transfer

Card 1/24

22611

Turbulent heat...

S/089/61/010/004/016/027
B102/B205

and of momentum transfer (ϵ_a/ϵ_v) were independent of the radius and the flow velocity. Libn has derived a general equation for the heat-transfer coefficient in a tube:

$$\frac{1}{Nu} = 2 \int_0^1 \frac{\left[\int_0^1 \frac{u}{w} \epsilon_a \epsilon_v \right]^2}{\left(1 + \epsilon \frac{c_v}{\gamma} Pr \right)^2} \epsilon^2 d\epsilon. \quad (1)$$

where $\epsilon = r/r_0$ and, using the results of Martinelli with $\epsilon = \epsilon_a/\epsilon_v = 1$, he obtained $Nu = 7 + 0.025 Pe^{0.8}$. Martinelli's and Lion's assumption that $\epsilon = 1$ has not yet been confirmed experimentally. Voskresenskiy, Deissler, Jenkins et al. have found experimentally that ϵ was much smaller than 1. On the basis of measurements of the temperature fields in flowing water and flowing liquid metals, the authors have made an attempt to determine the turbulent heat-transfer coefficient and ϵ for liquid metals, and to study the effect of the thermal conductivity of the metals on these quantities. The former quantity was calculated from the equation

Card 2/24

$$\epsilon_a = \frac{q/q_0}{\gamma \epsilon / f} \frac{r_0 q_0}{c_p \gamma} = a \quad (3).$$

Turbulent heat...

22613

3/083/61/010/004/016/027
B102/B205

The ratio of the local heat flow to the heat flow on the wall was found from the equation

$$q/q_0 = \frac{1}{f} \frac{u^*}{w} \left[(4.25 + 2.5 \ln y^+) f^2 - 2.5 f - 2.5(1 - f^2) \ln(r_0/y) \right].$$

The temperature gradients determined by graphical methods make it possible to calculate ϵ_a from Eq. (3). Fig. 1 shows the distribution of ϵ_a across the tube cross section. ϵ_a grows with increasing distance from the wall and with increasing Re number, wherefrom it follows that $\epsilon_a \neq 0$ in the center of the tube. The curves shown in Fig. 1 hold for a heavy metal. The $\epsilon_a(f)$ curves taken for alkali metals show a similar course, but the maximum is hardly marked at high Re numbers. Fig. 2 shows the experimental curves $\epsilon_a/k = f(f)$ (continuous lines) as compared with those calculated according to Lion (-----) and those obtained for heavy metal (A) and alkali metal (B) according to Voskresenskiy (-----). A comparison between measured and theoretically determined temperature fields (Fig. 3) shows that the assumption $\epsilon = 1$ increases the influence of turbulent heat transfer at small Re numbers but reduces it at high Re numbers. According to the Re number, ϵ is thus higher or lower than 1.

Card 3/24

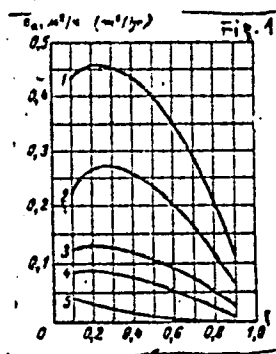
22613

S/009/61/010/004/016/027
B102/B205

Turbulent heat...

Fig. 4 shows $\epsilon - f(Re)$ at $\xi = 0.8$ for water (e), alkaline metal (a), and heavy metal (o). There are 4 figures.

SUBMITTED: July 14, 1960



Card 4/5 4

26368
S/089/61/011/002/004/015
B102/B201

215240

AUTHORS: Subbotin, V. I., Ibragimov, M. Kh., Ivanovskiy, M. N.,
Arnol'dov, M. N., Nomofilov, Ye. V.

TITLE: Heat transfer with a turbulent flow of liquid metals in tubes

PERIODICAL: Atomnaya energiya, v. 11, no. 2, 1961, 133-139

TEXT: This is a report on a study of heat transfer occurring with a turbulent flow of liquid alkali and heavy metals in tubes. In the range of $Pe = 10^2 - 10^4$, experimental data on heat transfer to liquid metals differ considerably; they may, on the whole, be grouped into two classes which are characterized by $Nu = 7 + 0.025 Pe^{0.5}$ (1) and $Nu = 3.3 + 0.014 Pe^{0.8}$ (2). The authors determined the heat-transfer coefficients by two methods: by measuring the temperature field in the flow of liquid metal, and by measuring the wall temperature and the mean temperature of the liquid metal. Fig. 1 shows the experimental setup traversed by the metal vertically (from bottom to top). The characteristics of the experimental setup are as follows:

Card 1/6

26368
S/089/61/011/002/004/015
B102/B201

Heat transfer with a turbulent ...

	Part 1	Part 2
tube material	steel 1X18H9T (1Kh18N9T)	steel 1X18H9T (1Kh18N9T)
outer tube diameter	42 mm	34 mm
inner tube diameter	31.1 mm	29.3 mm
distance between tube inlet and thermocouple	1166 mm	985 mm
length of part with heat transfer	1194 mm	980 mm
distance between beginning of heated part and thermocouple	976 mm	945 mm

All thermocouples (chromel-alumel couples) that served to measure the temperature of the liquid metal at the inlet and outlet of the test tubes, were calibrated on a platinum - platinum rhodium thermocouple. The electric power was measured by astatic wattmeters of accuracy index 0.2 and 0.5. The flow rate of the metal was measured by magnetic and throttle flow meters. The alkali metals were continuously purified from oxides (oxygen content 0.02-0.005% by weight), not so the heavy metals (oxygen content 0.02-0.005% by weight).

Card 2/6

26368

S/089/61/011/002/004/015
B102/B201

Heat transfer with a turbulent ...

$\sim 10^{-3}\%$ by weight). The temperature in the flow was measured with mobile thermocouples on 9-12 fixed points. Special small-size thermocouples served to measure the temperature fields; the results of these measurements were in good agreement with those calculated by Lyon's theory. The wall temperature was determined by extrapolation of the temperature profile for the wall. The mean temperature of the flowing liquid metal was calculated from the formula

$$\bar{t}_{liq} = \int_0^R U t_{liq} r dr / \int_0^R U r dr, \text{ where } U^* = 5.5 + 2.5 \ln,$$

y^+ was taken as the velocity-distribution law; ($y = 0.25-0.4$ mm). The Nusselt numbers resulting from the measurement of the temperature fields are in good agreement both with one another and with the results of other authors. They are consistent with Lyon's formula (1) in the range $Pe = 100-12,000$. It is not, however, as assumed by Lyon, $\epsilon_a/\epsilon_v = 1$,

constant over the tube cross section, and independent of Pe , but radically variable, and smaller than unity for small Pe , larger than unity for large Pe . The second method takes account of the thermal contact resistance on the heat-transfer surface. The results obtained by the two methods are in

Card 3/6

26368

S/089/61/011/002/004/015
B102/B201

X

Heat transfer with a turbulent...

agreement for alkali metals, which is indicative of the fact that there is no thermal contact resistance in them under the given conditions (purification from oxides!). No agreement was found in the case of heavy metals, i.e., there is a thermal contact resistance at the interface between tube wall and liquid metal. As was shown by further studies, this contact resistance drops exponentially with a rise of Re. Yu. N. Pokrovskiy, Engineer, and A. P. Aleksandrov, laboratory assistant, helped to prepare the experimental setup and the small-size thermocouples. There are 6 figures, 1 table, and 12 references: 6 Soviet-bloc and 6 non-Soviet-bloc. The three most important references to English-language publications read as follows: R. Lyon, Chem. Engng. Progr. 47, 2, 75 (1951); H. Brown et al. Trans. ASME, 79, No. 2, 279 (1957); R. Martinelli. Trans. ASME, 69, No. 8, 947 (1947).

SUBMITTED: August 25, 1960

Card 4/6

S/096/62/000/003/006/008
E195/E484

26.5.2000

AUTHORS: Subbotin, V.I., Doctor of Technical Sciences,
Ibragimov, M.Kh., Candidate of Technical Sciences,
Nomofilov, Ye.V., Engineer

TITLE: Measurement of turbulent temperature pulsations in a
fluid stream

PERIODICAL: Teploenergetika, no.3, 1962, 64-67

TEXT: Experimental study of turbulent temperature pulsations provides a better understanding of the internal structure of the stream and the mechanism of heat transfer under turbulent flow conditions. The test fluids were water and liquid metal; the apparatus is described. The authors established that with a variation in the Reynolds number there was a change in the temperature profile and the amplitude of pulsations and that the characteristic of temperature pulsations, in the region of maximum amplitudes, was the same for both fluids tested, although their thermal conductivities differed by a factor of 20 or 30. There was also a noticeable difference between the
Card 1/3

S/096/62/000/003/006/008
E195/E484

Measurement of turbulent ...

distributions of pulsations along the pipe diameter for both liquid metal and water. In liquid metals, which have a fairly smooth change in temperature gradient over the pipe cross-section, maximum pulsations occurred halfway between the wall and pipe centre; whilst in water, which has a greater change in temperature gradient in the boundary region, maximum pulsations were observed in the immediate proximity of the pipe wall. When the Reynolds number was increased, the region of maximum pulsations was then displaced towards the wall, because the temperature profile in the fluid stream changed due to an increase in turbulent thermal conductivity. With a rise in Reynolds number, the shape of the temperature profile for liquid metal approached that for water. The authors introduce a new concept which they call "intensity of temperature pulsations" and which is expressed by the ratio of the rms amplitude to the temperature head. This expression changes over the cross-section of the pipe in the same manner as the rms value of the amplitude (Fig.2). With the increase in Reynolds number from 2×10^4 to 2×10^5 the intensity of temperature pulsations falls at all points in turbulent

Card 2/ 4

Measurement of turbulent ...

S/096/62/000/003/006/008
E195/E484

flow (Fig.3). Thus the maximum value of intensity of temperature pulsations must be in the Re region of 2300 to 20000, since pulsations do not occur in laminar flow. In addition to the temperature pulsations in the turbulent core of the stream, there are also pulsations in the immediate proximity of the wall, in the laminar layer and in the pipe wall itself. The variation in mean frequency of temperature pulsations, in fluid stream and pipe wall, with a change in Re number, is also given. There are 8 figures and 5 references: 4 Soviet-bloc and 1 Russian translation from non-Soviet-bloc publication.

Card 3/4

SUBBOTIN, V.I.; IBRAGIMOV, M.Kh.; NOMOFILOV, Ye.V.

Heat transfer in the thermal stabilization region during turbulent
flow of liquid metals in a tube. Atom. energ. 13 no.2:155-161
Ag '62. (MIRA 15:8)

(Hydrodynamics) (Heat—Transmission)

Pr-1/Pu-1/Ps-1 WW/JD
ACCESSION NR: AP3000684

8/0096/63/000/006/0070/0074 75

AUTHOR: Subbotin, V. I. (Doctor of technical sciences); Ibragimov, M. Kh. 74
(Candidate of technical sciences); Nomofilov, Ye. V. (Engineer)

TITLE: Measurement of temperature fields in turbulent flow of mercury in a pipe 27

SOURCE: Teploenergetika, no. 6, 1963, 70-74

TOPIC TAGS: turbulent heat transfer coefficient, radial temperature profile

ABSTRACT: Radial temperature profiles in mercury flowing upward in a vertical tube of 1Kh18N9T steel (outer diameter, 34 mm; inner diameter, 29.3 mm; length, 1300 mm) were determined by a moving temperature probe equipped with two alumel-chromel thermocouples. The tube was heated by a nichrome strip and the probe was driven by a worm gear mechanism with an electric motor. The experimental parameters were as follows: Re, 19,300-410,000; average mercury temperature, 10.1-41.1C; temperature difference between the mercury and the tube wall, 3.2-6.33C; and flow velocities, 0.08-1.72 m/sec. Measurements were made at 12 points located 0.25-14 mm from the tube wall. The temperatures were recorded for 30-50 sec by an EPP-09 high-speed automatic potentiometer, and the average readings were plotted on a dimensionless temperature versus distance graph.

Card 1/2

L 12924-63

ACCESSION NR: AP3000684

The wall temperature was obtained by extrapolation of the profiles. The turbulent heat transfer coefficient (ϵ_a) was calculated from the local heat fluxes, the heat flux through the wall, and the temperature gradients obtained from the profiles by graphical differentiation. The value of ϵ_a increased with increasing Re and with increasing distance from the wall, attaining a maximum at $r/r_0 = 0.2-0.3$. In the center of the tube (r/r_0 is less than 0.2), accurate values of ϵ_a could not be determined because of the considerable inaccuracy in the temperature gradients. The thermal mixing length was also determined and plotted against the r/r_0 . To gain further insight into the heat transfer mechanism, it is suggested that experiments be carried out in which ϵ_a is determined with sufficient accuracy in the center and the wall zone. Orig. art. has: 5 figures, 3 tables, and 6 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 21Jun63

ENCL: 00

SUB CODE: NS

NO REF SOV: 003

OTHER: 004

Card 2/2

NOMOFILOV, YE. V.

AID Nr. 978-4 28 May

RELATIONSHIP BETWEEN TURBULENT HEAT-TRANSFER COEFFICIENTS
AND MOMENTUM (USSR)

Subbotin, V. I., M. Kh. Ibragimov, and Ye. V. Nomofilov. Atomnaya
energiya, v. 14, no. 4, Apr 1963, 414-416. S/089/63/014/004/016/019

In a study of heat transfer in turbulent flow of liquid metal, the heat-transfer and momentum-transfer coefficients have been calculated from experimental temperature fields obtained with liquid metal flowing in a pipe at $Pr = 0.025$ and $Re = 20,000$ to $450,000$. The calculations show that 1) the ratio between the coefficients of turbulent heat transfer and momentum depends on the Reynolds number, and 2) the turbulent transfer of momentum and the coefficient of dissimilarity ϵ between turbulent heat transfer and momentum depend on the flow velocity distribution law. However, the velocity distribution has very little effect on the variation of ϵ along the pipe radius. It is stated that the turbulent heat-transfer theory can be developed only on the basis of direct experimental study of actual parameters, including velocity pulsations, temperature, and the statistical correlations between the two.

[AS]

Card 1/1

ACCESSION NR: AP4024192

S/0294/64/000/001/0071/0077

AUTHOR: Subbotin, V. I.; Ibragimov, M. Kh.; Nemofiler, Ye. V.

TITLE: Statistical investigation of turbulent temperature pulsations in a liquid stream

SOURCE: Teplofizika vyssokikh temperatur, ²no. 1, 1964, 71-77

TOPIC TAGS: temperature pulsation in stream, turbulent temperature pulsation, turbulent water stream, turbulent liquid metal stream, autocorrelation function, correlation function, normalized autocorrelation function, jet shaped turbulence, semiempirical turbulence theory, normalized correlation function

ABSTRACT: Results are reported of measurements of temperature pulsations in turbulent streams of water and liquid metal, measurements of the normalized autocorrelation and mutual correlation functions, and measurement of the turbulence scales. A stainless steel tube with specially treated internal surface was used for the flow, and a motor driven thermocouple probe was used to plot the temperature distribution. Various measurement steps are detailed. It is concluded that the turbulent-disturbance region is

Card 1/32

ACCESSION NR: AP4024192

cylindrical in form, so that the disturbances themselves are shaped like jets and cannot be represented by small spheres as is extensively done in semiempirical turbulence theories. Orig. art. has: 7 figures and 8 formulas.

ASSOCIATION: none

SUBMITTED: 03Sep63

DATE ACQ: 16Apr64

ENCL: 01

SUB CODE: PH

NO REF SOV: 006

OTHER: 004

Card 2/3

L 21989-66 EWT(1)/ENP(m)/EWA(d)/EWA(1)

ACCESSION NR: AP5025985

UR/0294/65/003/005/0708/0716

532.542.4:546.49:536.5.001.5

60
B

AUTHOR: Bobkov, V. P. (Moscow); Gribov, Yu. I. (Moscow); Ibragimov, M. Kh. (Moscow); Nomofilov, Ya. V. (Moscow); Subbotin, V. I. (Moscow)

1,55

TITLE: Measurement of temperature pulsation intensity in the turbulent flow of mercury in a tube

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 5, 1965, 708-716

TOPIC TAGS: mercury, turbulent flow, ~~pulsations~~, temperature stabilization, flow meter/Type 46K1 flow meter

ABSTRACT: The temperature pulsations were measured with two thermocouples, located in a single probe. Location of the thermocouples in the experimental section was accurate to ± 0.1 mm. The experimental tube had a diameter of 52.2 mm, and was placed vertically. The length of the hydrodynamic and thermal stabilization zone was 30 tube diameters. In some experiments, a grid with an effective section equal to 30% of the cross section of the tube was placed at the inlet of the tube. This grid was a steel plate 2 mm thick with 2.5 mm diameter openings in a square pattern with a spacing of 4 mm. The mercury was circulated in the loop by a Type TsN-2 centrifugal pump. The heat flux was created by an electric heater, and the temperature of the mercury was measured with Chrom-Card 1/2

2

L 21989-66

ACCESSION NR: AP5025985

6

el-Alumel thermocouples. The statistical characteristics of the flow were measured and automatically recorded with a Type 46K1 correlation meter. The amplifiers had a transmission band from 0.18 to 300 cycles at a level of 0.9. A block diagram of the measuring scheme is given. The temperature pulsation intensity was measured over a Reynolds number range from 5×10^4 to 125×10^3 and a heat flux at the wall from 10^4 to 2×10^4 kcal/in²-hr, at different inlet conditions. Results are given in tabular form. Analysis of experimental data shows that with a rise in the Reynolds number, the observed nonhomogeneity of the pulsations along the radius of the tube gradually disappears and the maximum intensity degenerates. Comparison of the experimental data for mercury and water indicate that with a rise in the Prandtl number at constant Reynolds number, the maximum intensity of turbulent temperature pulsations becomes more marked and approaches the tube wall. Orig. art. has: 6 figures and 1 table

ASSOCIATION: None

SUBMITTED: 31Jul64

NR REF SOV: 007

ENCL: 00

OTHER: 005

SUB CODE: 20

Card 2/2 *fw*

REF ID: A6021215

ACC NR: AP6021215

SOURCE CODE: UR/0294/66/004/003/0380/0388

AUTHOR: Bobkov, V. P. (Moscow); Ibragimov, M. Kh. (Moscow); Nomofilov, Ye. V. (Moscow); Subbotin, V. I. (Moscow)

ORG: none

TITLE: Investigation of spatial correlation coefficients and transverse temperature excitation scales in the turbulent flow of mercury in a round tube

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 380-388

TOPIC TAGS: turbulent flow, Reynolds number, thermocouple, liquid metal, mercury

ABSTRACT: Temperature fluctuations in a turbulent flow of mercury were investigated in the Reynolds number range of 10,000 to 125,000. A pair of thermocouples were used at various positions in the stream and the spatial correlation coefficient was measured. The results are tabulated and graphed. The correlation coefficients were found to approach zero in the center of the stream and their change with the Reynolds number was noted to be greatest at the center. This is taken to indicate the strong dependence of the walls on the turbulence of the flow. The results indicate that transverse variations in temperature fluctuations are similar to those of velocity fluctuations and their scale is comparable to the stream transverse dimension. The analysis of the results is accompanied by an extensive review of turbulence theory

UDC: 532.5.071.4

Card 1/2

L 45669-66

ACC NR: AP6021215

and some discussion of other experimental results. This analysis shows that the experiment satisfies the criterion for the correlation of temperature fluctuations and that measurements at lower Reynolds numbers can be valid, provided the experimental error could be reduced. The results of the analysis and the experiment indicate that the structure of turbulent flow cannot be satisfactorily described in terms of local gradients, but must take account of the statistical fluctuations. Orig. art. has: 6 figures, 9 formulas, 1 table.

SUB CODE: 20/

SUBM DATE: 21Jul65/

ORIG REF: 007/

OTH REF: 005

Card 2/2 fv

1. NOMOKONOV, L. I.
2. USSR (600)
4. Meadows - Valday District
7. Meadow vegetation of Valday District. Uch. zap. Len. un., No. 143, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

~~ROMOKONOV, L.S.~~

Division of Valday District into geobotanical districts. Uch.
zap.Len.un.no.167:174-189 '54. (MLRA 9:6)
(Valday District--Geobotany)

НКОМОНОВ, ЛЕОНИЙ ИВАНОВИЧ

НКОМОНОВ, Leonity Ivanovich, (East-Siberian Affiliate, Acad Sci USSR), Academic degree of Doctor of Biological Sciences, based on his defense, 18 May 1955, in the Council of the Botanical Inst imeni Komarov, Acad Sci USSR, of his dissertation entitled: "Inundated banks of the Yenisey River."

For the Academic Degree of Doctor of Sciences.

Byulleten' Ministerstva Vysshego Obrazovaniya SSSR, List No.8, 14 April 1955
Decision of Higher Certification Commission Concerning Academic Degrees and Titles.

JPRS 512

NOMOKONOV, L.I.

NOMOKONOV, L.I.

Classifying bottomland meadows of Siberia. Izv.vost.fil. AN SSSR
no.3:107-116 '57. (MERA 10:9)

1. Vostochno-Sibirskiy filial Akademii nauk SSSR.
(Siberia--Pastures and meadows)

ВОМБЕКОВЫ, Л. Л.
НОМОНОВ, Л. Л.

Brief survey of Lena-River floodlands. Izv. vost. fil. AN SSSR no. 11:
128-136 '57. (MIRA 11:1)

1. Vostochno-Sibirskiy filial Akademii nauk SSSR.
(Lena Valley--Pastures and meadows)

ROMOKONOV, Leontiy Ivanovich; SHENNIKOV, A.P., otv.red.; KUL'TIASOV,
I.M., red.izd-vs; POLYAKOVA, T.V., tekhn.red.

[Flood land meadows of the Yenisey] Poimennye luga Eniseia.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 455 p. (MIRA 13:2)
(Yenisey Valley--Pastures and meadows)

НОМОКОНОВ, Л.И.

Soils of the flood lands of the Yenisey River. Trudy Vost.-Sib.
fil.AN SSSR no.17:72-102 '59. (MIRA 13:8)
(Yenisey Valley--Soils)

МОНЧЕНКО, Л.П.

Some characteristic features of the plant cover in the Irkutsk-
Belagansk forest steppe. Izv. Sib. otd. AN SSSR no.9:97-95
'61. (MIRA 14:10)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR,
Irkutsk.

(Irkutsk Province--Botany--Ecology)

NOMOKONOV, Leontiy Ivanovich; KUL'TIASSOV, I.M., red. izd-va;
BAGRAMOVA, A.A., tekhn. red.; RYLINA, Yu.V., tekhn. red.

[Floodland meadows of the upper Lena Valley] Poimennye luga
verkhnego techenia reki Leny. Moskva, Izd-vo Akad.nauk SSSR,
1962. 103 p. (MIRA 15:8)
(Lena Valley—Pastures and meadows)

NOMOKONOV, L.I.

Short survey of the flood plain meadows of the Ob' River. Trudy
Vost.-Sib.biol.inst.SO AN SSSR no.1433-60 '62. (MIRA 16:1)
(Ob' Valley--Pastures and meadows)

NOMOKONOV, L.I.

Development of a unified classification system for meadows. Trudy Inst.
biol. UP AN SSSR no.27:111-114 '61. (MIRA 17:2)

NOMOKONOV, L.I.

Some methodological problems of biocenology. Izv. SO AN SSSR
no. 8. Ser. biol.-med. nauk no.2:34-43 '63. (MIRA 16:11)

1. Vostochno-Sibirskiy biologicheskiy institut, Irkutsk.

*

NUMOKONOV, M.A.

SHAMSHEV, F.A.; NUMOKONOV, M.K.; SMIRNOV, F.N.; TARAKANOV, S.N.; YAKOVLEV, A.M.

Theory of vibrational drilling. Razved.i okh.nedr 23 no.8:18-21 Ag '57
(MIRA 10:11)

1. Leningradskiy gornyy institut imeni G.V.Plekhanova.
(Boring)

USSR/Mathematics, - Stochastic Kernel 21 May 52

"The Spectrum of One Class of Integral Equations With Stochastic Kernel," M. K. Moskonov, Leningrad Mining Inst

"Dok Ak Nauk SSSR" Vol LXXXIV, No 3, pp 445-448

Considers the familiar integral eq $f(x) = \int_a^b$

$L/K(x,y)f(y)dy$ whose kernel $K(x,y)$ (greater than 0)

is either symmetric or symmetrizable, as for exam-
ple the kernel of the correlational integral eq

$f(x,y)/P(x) = \int_a^b P(x,y)dy$. The kernel $K(x,y)$
225750

is stochastic that is, $\int_a^b K(x,y)dy = 1$. Demonstrates

relevant theorem and 3 consequences, in connection with
the matrices of the function $f(x)$ and its derivatives (in
the fashion of the Fredholm and Wronski matrices).
Submitted by Acad S. N. Bernstein 28 Mar 52.

NOVOKONOV, M. K.

225750

ACC NR: AP7002181

SOURCE CODE: UR/0146/66/009/006/0140/0144

AUTHOR: Nowokonov, V. N.; Yerosh, I. L.

ORG: Leningrad Institute of Electrical Engineering im. V. I. Ul'yanov (Lenin)
(Leningradskiy elektrotekhnicheskiy institut)

TITLE: Detecting false responses of binary scaling circuits with the aid of
modulus control

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 6, 1966, 140-144

TOPIC TAGS: detection, error correction, *ELECTRONIC CIRCUIT*

ABSTRACT: A circuit which detects false responses of binary scaling circuits by application of modulo-checking is described (see Fig. 1). Methods are described for selecting the most effective values of the modulus for detecting false responses. The scaling circuit consists of the basic and checking counters, AND and NOT circuits which detect errors, and an AND circuit, which separates the correct output signal and blocks the false ones. In operation the counter was capable of detecting all the errors of the checking counter and most common errors made by the basic and checking counters. Orig. art. has: 1 figure, 10 formulas and 1 table.

Cord 1/2

UDC: 681.14

ACC NR: AP7002181

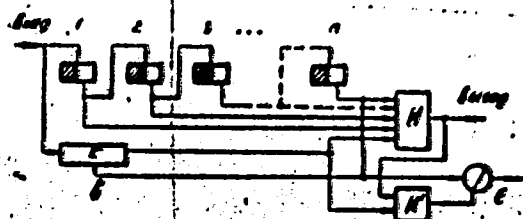


Fig. 1.

SUB CODE: 09/ SUBM DATE: 07Jun65/ ORIG REF: 002

Card 2/2

ACC NR: AR7004321

SOURCE CODE: UR/0271/66/000/011/B030/B030

AUTHOR: Nomokonov, V. N.; Tolstyakov, V. S.

TITLE: Enhancing the reliability of binary counter by means of redundant coding

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 11B231

REF SOURCE: Izv. Leningr. elektrotekhn. in-t, ch. 2, vyp. 56, 1966, 89-93

TOPIC TAGS: binary counter, error correcting code, ~~check-out equipment~~ pulse counter, coding, digital decoder, reliability engineering

ABSTRACT: In order to enhance the reliability of operation of pulse counters, it is expedient to check their operation by means of correcting (redundant) codes. As the counter has a single-valued relation between its states and its transitions, the check can be performed either by checking the counter proper or by checking the correctness of its transitions provided its correct initial state is known. In the first method (counter states are coded), a short error-detection time comparable to the counter transient time can be ensured only when decoding is performed by parallel half-adders whose great number is determined by the number of check "ones" in the code matrix. The second method (counter transitions are coded) is also considered; it permits a smaller decoding unit as a result of using excess-igit triggers as serial half-adders; the method ensures short time of error detection. One figure. G. V.

[Translation of abstract]

SUB CODE: 09, 14
Card 1/1

UDC: 681.142:621.374.32

ACC NR: AR7004301

SOURCE CODE: UR/0271/66/000/011/A007/A008

AUTHOR: Tolstaykov, V. S.; Nomokonov, V. N.

TITLE: Higher reliability of pulse counters and scalars

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 11A59

REF SOURCE: Izv. Leningr. elektrotekhn. in-ta, ch. 2, vyp. 56, 1966, 84-88

TOPIC TAGS: pulse counter, scaler, error correcting code

ABSTRACT: The problem of improving reliability of counters and scalars in electronic devices is considered. The probability of false signals is reduced by various means depending on the operating conditions: selected element redundancy, threshold adaption in multichannel systems, functional checks, error-detecting and error-correcting codes. One figure. M. S. [Translation of abstract]

SUB CODE: 09, 12

Card 1/1

NOMOKANOV, V. P.

NOMOKANOV, V. P., GURVICH, I. I., and ROZANOV, I. N.

"High-Frequency Amplifier for Seismic Prospecting on the Basis of
the Amplifier at the Station EKHO-1," Razvedka i Ochrana Morsk. No. 3. pp
29-32, 1954

SO: W-31 29, 2 Sep 55

NOMOKONOV, V. P.

112-2-4512

TRANSLATION FROM: Referativnyy zhurnal, Elektrotehnika, 1957,
Nr 2, p. 292 (USSR)

AUTHORS: - Nomokonov, V. P., Gil'bershteyn, P. G., Ymnov, V. F.

TITLE: CC-26-51Д Station Amplifiers for High Frequency Seismic
Geophysical Exploration (Usiliteli stantsii SS-26-51 D
dlya vysokochastotnoy seysmorazvedki)

PERIODICAL: V Sb.: Razvedochnaya i promyslovaya geofizika. Nr 15,
Moscow, Gostoptekhnizdat, 1956, pp. 81-83.

ABSTRACT: Amplifiers of the widely used CC-26-51Д stations can be
used for high frequency (from 60 to 120 cps and higher) seismic
geophysical exploration on the condition that the filters and
output stages are changed. The converted filter and output stage
circuits and their frequency characteristics are given. Low
frequency attenuation amounts to 32 to 24 db (instead of 15 to
17 db for stock amplifiers). The redesigned amplifiers can be
used even in the 30 to 50 cps frequency range.

V.M.L.

Card 1/1

82921

S/169/60/000/006/004/021
A005/A001

3,9300

Translation from: Referativnyy zhurnal, Geofizika, 1960, No. 6, p. 34, # 5790

AUTHOR: Nomokonov, V. P.

TITLE: Grouping the Geophones Separated by Large Distances

PERIODICAL: Tr. Mosk. geol. razved. in-ta, 1959, Vol. 36, pp. 87-95

TEXT: The problem is considered of eliminating irregular disturbances by means of grouping the geophones. To eliminate disturbances, the author recommends to arrange the geophones at larger distances from each other than was usually done up to now when grouping them. Hereby, he pays attention to the fact that the distances between the devices in a group must be less than the maximum admissible distances for attaining suitable superposition of the effective waves, when grouping longitudinally (and over the surface). Formulae are given for determining the maximum admissible distances between the geophones in longitudinal groups; these formulae are derived basing on the theory of directed action for stationary harmonic oscillations.

V. S. Isayev

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

NOMOKONOV, V.P.

"Flat front" method. Izv.vys.ucheb.zav.; geol.i razv. 5 no.8:
107-113 Ag '62. (MIRA 15:11)

1. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze.
(Seismic prospecting)

NOMOKONOV, V.P.; GRECHISHNIKOV, G.A.

High-frequency seismic station on the basis of a serial SS-2411
station. Razved. i prom. geofiz. no.48:45-47 '63 (MIRA 18:1)

NGOMONOV, V.P.; TKPLITSKIY, V.A.

Pattern shooting at long bases in the method of reflected waves
(plane front method). Prikl. geofiz. no.40:57-76 1964
(MIRA 18:1)

LUPANOSOV, V.P.; NOMOKONOV, V.P.; TEPLITSKIY, V.A.

Plotting temporary cross sections based on the data of the
"flat front" method. Razved. geofiz. no.3:23-27 '65.
(MIRA 18:8)

GRECHISHNIKOV, G.A.; NEMOKONOV, V.P.

Characteristics of the refracted waves originating in a medium containing vertical beds according to the data of modeling. Izv. vys.ucheb.zav.; geol. i razv. 8 no.2:116-122 F '65.

(MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki i Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.

TEPLITSKIY, V.A., otv. red.; KALMYKOV, G.N., red.; NOMOKONOV, V.F.,
red.

[Seismic prospecting using the grouping of shots on long
bases and the method of central rays; transactions] Seismo-
razvedka s primeneniem gruppirovaniia vzryvov na dlinnykh
bazakh i sposoba tsentral'nykh luchei; trudy. Moskva, Nedra,
1965. 106 p. (MIRA 18:10)

1. Vsesoyuznyy seminar po novoy metodike seysmorazvedki.

L 47135-66 EWT(L)/EWT(m)/EWP(j)/T IJP(e) GD/RI/GW

ACC NR: AT6031371

SOURCE CODE: UR/0000/66/000/000/0062/0064

AUTHOR: Gil'bershteyn, P. G.; Grechishnikov, G. A.; Nomokonov, V. P.

36
B+1

ORG: none

TITLE: Construction of wide-band transducers for seismic modeling

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'tra-zvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 62-64

TOPIC TAGS: acoustic detector, acoustic receiver, seismic modeling, seismology, wide band transducer

ABSTRACT: A new type wide-band receiver to be used in seismic modeling is described. It consists of Rochelle salt plates of different thickness and height, each with its own natural frequency, which form a receiver with wider band-frequency characteristics when stacked together. The damping of natural frequencies was accomplished by covering the stack with a 1-2-mm thick layer of transparent epoxy resin. The receiver, shown in Fig. 1, requires no clamp, as the contact is established by a thin layer of vaseline. A pulse transmitted through a brass sheet consisted of a single vibration with an apparent frequency of 100 kcps and a pulse duration of 16 μ sec. Compared to the older-type receivers, the total pulse duration of the new

Card 1/2

L 47135-66

ACC NR: AT6031371

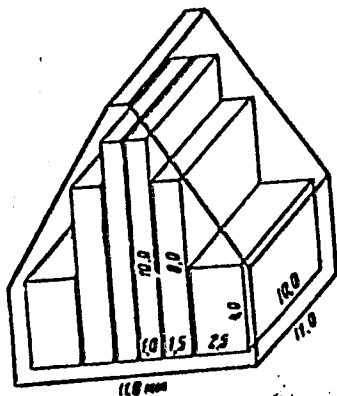


Fig. 1. Sketch of the new receiver (dimensions are given in mm).

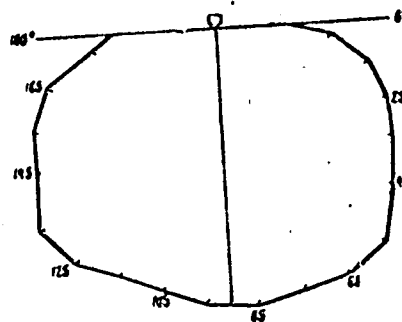


Fig. 2. Direction pattern of the new receiver.

detector at the same apparent period was shortened by 50%, and the resolution was improved accordingly. Use of a filter with a cutoff frequency above 80 kcps decreased the apparent frequency to 70 kcps without changing the shape of the signal. Fig. 2 shows the direction pattern of the receiver. Orig. art. has: 3 figures. [CS]

SUB CODE: 08 / SUBM DATE: 28Mar66/ ATD PRESS: 5088

Card 2/2 a's

L h7136-66 EWT(1)/EWT(m)/EWP(5)/T RM/GM/GD

ACC NR: AT6031370

SOURCE CODE: UR/0000/66/000/000/0051/0058

AUTHOR: Grechishnikov, G. A.; Nomokonov, V. P.; Sharov, V. I.

16
B+1

ORG: none

TITLE: Characteristics of seismic waves [✓]refracted on curvilinear interfaces

SOURCE: AN SSSR. Institut fiziki Zemli. Geokustika; ispol'zovaniye zvuka i ul'tra-zvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 51-58

TOPIC TAGS: seismic wave refraction, cruvilinear interface, seismic wave model, refracted wave, travel time curve

ABSTRACT: A seismic-wave modeling experiment is described in which the physical nature and characteristics of waves refracted on the curvilinear surface of a homogeneous basement of infinite thickness are studied. The modeling was carried out on an installation consisting of pulse seismoscope, piezoelectric transducers, and photographic attachments. The seismoscope was specially designed in the Moscow Geological Prospecting Institute imeni S. Ordzhonikidze. The 10 x 10-mm transducers consisted of Rochelle salt plates treated with MBK-1 compound. The media models were made of plexiglass and duralum sheets having thicknesses of 3 and 1.5 mm. The plexiglass ¹⁵ simulated the overburden, while the duralum simulated the lower refracting medium.

Card 1/2

L 47136-56

ACC NR: AT6031370

Longitudinal wave velocities were 2300 m/sec ($\lambda_0 = 4.6$ cm) in the plexiglass and 5200 m/sec ($\lambda_1 = 10.4$ cm) in the duralum. The experiments showed that the first arrivals above and beyond the sectors with the curvilinear refracting boundary were those of refracted-diffracted waves and not head waves. In previous model experiments of this type it had been assumed that the waves recorded on the surface were head waves arising as a result of the propagation of the refracted wave along the curvilinear surface. Interpretation of the travel-time curves of the first arrivals recorded in the sectors with a curvilinear refracting boundary by means of existing methods invariably results in errors because of the formation of travel-time curve loops and penetration into the refracting medium. The amplitude curves of the refracted waves in the case of a curvilinear refracting boundary are characterized by a high degree of dissection. Amplitude variations are caused by interference waves arriving from various sectors of the boundary and by the energy distribution along the refracted-diffracted wave fronts. Orig. art. has: 6 figures. [DM]

SUB CODE: 08/ SUBM DATE: 28Mar66/ ORIG REF: 008/ ATD PRESS: 5088

Card 2/2 af

ACC NR: AT6028968

SOURCE CODE: UR/0000/65/000/000/0075/0083

AUTHOR: Lupanov, V. P.; Nomokonov, V. P.; Ogorodnikov, V. V.;
Teplitskiy, V. A.

ORG: State Geological Committee of Industrial Production, TSSR
(Gosudarstvennyy proizvodstvennyy geologicheskiy komitet TSSR);
Moscow Geological Prospecting Institute im. S. Ordzhonikidze (Moskovskiy
geologorazvedochnyy institut).

TITLE: Results of applying the plane wave-front method in eastern
Turkmenia

SOURCE: Vsesoyuznyy seminar po novoy metodike seysmorazvedki.
Seysmorazvedka s primeneniym gruppirovaniya vzryvov na dlinnykh bazakh
i sposoba tsentral'nykh luchey (Seismic prospecting using the grouping
of shots on long bases and the method of central rays); trudy seminara.
Moscow, Izd-vo Nedra, 1965, 75-83

TOPIC TAGS: seismic prospecting, seismic wave, underground explosion,
seismography

ABSTRACT: The investigations conducted using the plane wave-front
method (SPF) during 1959—1963 by the Amu-Darya Geophysical Expedition
are described. This work was done in areas with complex surface and

Card 1/2

ACC NR: AT6028968

subsurface seismological conditions. SPF was used successfully in areas lacking data from reflected waves, i.e., clear reflections and even diffracted waves formed in fault zones were obtained. The results of using SPF in fault zones were confirmed by deep drilling. Recording of reflections was performed not only within the limits of the generation profile but outside and perpendicular to the terminal sources. This made it possible to analyze boundaries with angles of inclination of 5—10° and get additional criteria for the formation of diffracted waves. Orig. art. has: 6 figures.

SUB CODE: 08/ SUBM DATE: 30Apr65/

Cord 2/2

ACC NR: AT6028963 SOURCE CODE: UR/0000/65/000/000/0026/0036

AUTHOR: Nomokonov, V. P.; Teplitskiy, V. A.

ORG: Moscow Geological Prospecting Institute im. S. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut); All-Union Scientific Research Institute of Petroleum Geological Prospecting (Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut)

TITLE: Theoretical basis of shot grouping on long spreads ("plane wave-front" method)

SOURCE: Vsesoyuznyy seminar po novoy metodike seysmorazvedki. Seysmorazvedka s primeneniym gruppirovaniya vzryvov na dlinnykh bazakh i sposoba tsentral'nykh luchey (Seismic prospecting using the grouping of shots on long bases and the method of central rays); trudy seminar. Moscow, Izd-vo Nedra, 1965, 26-36

TOPIC TAGS: underground explosion, geologic exploration, seismic boundary, travel time curve, seismic prospecting, seismic wave

ABSTRACT: Basic principles and formulas of the theory of travel-time curves of reflected waves are presented for the case of a continuous linear source. An analysis is made of the generation source and geophone spread parameters. The relationship between generation and

Card 1/2

ACC NR: AT6028963

reception zones is investigated for various angles of reflecting boundaries. The ratio of reflection amplitude to noise amplitude of surface waves obtained from experiments within the shot spread is determined to be 1.4 times greater than that outside the spread. Grouping of shots in long spreads may be used for studying fractures by separation of the composite reflected and diffracted waves according to the shape and relationship of the cophasal axis. Composite diffracted waves registered near the fracture are found to be the least distorted. An analysis is made of the methods of compilation and interpretations of time sections from seismograms obtained from tapes. The possibility of combining the plane wave-front method with regulated directional reception and the method of reflected waves was considered for various geological environments. Orig. art. has: 15 formulas and 3 figures.

SUB CODE: 08/ SUBM DATE: 30Apr65/ ORIG REF: 012/ OTH REF: 006

NOMOKONOVA, L.M.; SHAPIRO, B.I.

Epiphysis and subcommissural organ of some vertebrates. Arkh. anat.,
gist. 1 embr. 48 no.2:36-44 F '65. (MIRA 18:8)

1. Laboratoriya sravnitel'noy fiziologii tsentral'noy nervnoy
sistemy (zav. - chlen korrespondent AN ArmSSR i A.I.Karamyan)
Instituta evolyutsionnoy fiziologii imeni I.M.Sechenova AN SSSR,
Leningrad.

TKALICH, S.M.; MINEYEV, I.K., glavnyy red.; RYABENKO, V.Ye., zam. glavnogo red.; TUMOL'SKIY, L.M., zam. glavnogo red.; KUR'YANOV, F.K., otv. zav vypusk; BASSOLITSYN, Ye.P., red.; BLINNIKOV, I.I., red.; DAUKSHO, Yu.Ye., red.; DZINKAS, Yu.K., red.; ZHARKOV, M.A., red.; ZAVALISHIN, M.A., red.; MANDEL'BAUM, M.M., red.; MATS, V.D., red.; MALETOV, P.I., red.; NOMOKONOVA, N., red.; NOSEK, A.V., red.; SERD, A.I., red.; SEMENYUK, V.D., red.; TAYEVSKIY, V.M., red.; TIKHONOV, V.L., red.; TROFIMUK, I.N., red.; TOMILOVSKAYA, M.V., red.; FOMIN, N.I., red.; SHAMES, P.I., red.; TROSHANIN, Ye.I., tekhn. red.

[Biogeochemical anomalies and their interpretation.] Biogeo-
khimicheskie anomalii i ikh interpretatsiya. Irkutsk, 1961.
39 p. (Materialy po geologii i poleznym iskopayemykh Irkutskoi
oblasti no.3). (MIRA 17:1)

SOV/137-58-9-20302

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 312 (USSR)

AUTHORS: ~~Nomokonova~~ N.A., Morozova, I.F.

TITLE: Spectroscopic Methods for the Determination of Niobium, Tantalum, Zirconium, Titanium, Beryllium, and Indium (Spektral'nyye metody opredeleniya niobiya, tantala, tsirkoniya, titana, berilliya i indiya)

PERIODICAL: Tr. Vses.Magadansk. n.-i. in-ta—I M-va tsvetn. metallurgii SSSR, 1957, division 4, Nr 19, pp 14-20

ABSTRACT: Quantitative spectroscopic methods for the determination of In, Be, and Ti were developed, and the methods for the determination of Nb, Ta, and Zr in ores and the products of their processing were modified. The determinations were carried out according to the method of three standard specimens. Ores with a known content of components were used as standard specimens. Curves were plotted with $\Delta S - \log_{10} C$ coordinates. For the determination of Nb, Ta, Ti, and Zr the test sample was mixed with carbon powder (1:1) and introduced into a carbon electrode (E) with a pointed portion 2.6 mm in diameter and 12 mm long, the crater being 1.3 mm in diameter and 5 mm

Card 1/2

SOV/137-58-9-20302

Spectroscopic Methods for the Determination (cont.)

deep. The exposure time was 2-3 min with 15 sec of preliminary sparking with a 9.5-amp current. Mo served as the internal standard. The determination of Be and In was carried out by the introduction of 100-200 mg of specimen mixed with the internal standard on paper strips between horizontal carbon E's. The E's were ground into the shape of a cone with a stage area of 3 mm. Cr serves as the internal standard in the determination of Be; for the determination of In, depending on the contents of Sn in the specimen, Cd or Bi are used. The ranges of the determinations are (in %): In and Be 0.001 - 1, Ta and Ti 0.05 - 2, Nb 0.03 - 1, Zr 0.12 - 2. The error of the method is (in %): for Nb, In, Ta ± 8 , Zr ± 4 to 8, for Be ± 5 , and for Ti ± 10 .

B.M.

1. Metals--Determination 2. Spectroscopy

Card 2/2

NOMOKONOVA, N.A.

Using spectrum analysis for ores from deposits of the Far
Eastern Railroad Construction Administration. Fiz.sbor.
no.4:364-366 '58. (MIRA 12:5)
(Ores--Spectra)

[illegible]

LYALIKOV, K.S.; PETRUSHKINA, Z.L.; NOMOKONOVA, V.F.; RASTORGUYEV, N.G.

Dark discoloration of infrared sensitizers. Zhur. nauch. i prikl.
fot. i kin. 6 no. 3:178-185 My '61. (MIRA 14:5)

1. Laboratoriya aerometodov AN SSSR.
(Photography--Films)

LYALIKOV, K.S.; PETRUSHKINA, Z.L.; NOMOKONOVA, V.F.

Comparing the resolving power and the sharpness of two films
for aerial photography. Zhur.nauch.i ~~tekhn.~~ fot.i kin. 6 no.6:
418-420 N-D '61. (MIRA 1541)

1. Laboratoriya aerometodov AN SSSR.
(Photography, Aerial--Equipment and supplies)

NONAY T.

EXCERPTA MEDICA Sec.12 Vol.9/11 Ophthalmology Nov55

1840. NONAY T. 2. Univ. -Augenklin., Budapest. * Kataraktoperationen an primär glaukomatösen Augen. Cataract surgery in eyes with chronic glaucoma KLEN. MBL. AUGENHEILK. 1953, 123/3 (257-267) Tables 4 illus. 1

Evaluation of 69 (out of a total of 4,459) cataract operations in eyes which had chronic glaucoma: The glaucoma existed in 27 cases more than 8 yr., in 32 cases more than 2 yr. If the tension of the glaucomatous eye could be reduced to the limit of 36 mm. Hg by miotics, the primary cataract extraction was performed; otherwise an antiglaucomatous operation was performed first; the cataract extraction followed 3-6 months later. Prior to the cataract surgery a careful cardiovascular check-up was routinely carried out in order to detect and treat disorders which could lead to haemorrhages. The section for the cataract surgery was performed on the superior half of the limbus without consideration of pre-existing filtering scars. According to the author's experience this did not cause increased tension post-operatively. A sclero-conjunctival suture for the wound closure and total iridectomy was routinely performed. In all cases intracapsular lens extraction was performed and succeeded in 72% of the cases. In 37 cases in which the tension was held at 36 mm. Hg or under with miotics pre-operatively the successful primary intracapsular extraction (in 34 cases) resulted in normalization of the tension but the author does not state how long these eyes were followed up postoperatively.

Dellaporta - Buffalo, N. Y.

NONAY, Tibor.; STERNBERG, R.; KORNEL, ALICE.; KORNEL, Alice.

Surgery of vertical muscles of the eye. Szemeszet 91 no.4: 145-150
Nov 54.

1. A budapesti Orvostudományi Egyetem II. sz. Szeméklínikájának
közleménye (Igazgató: Nonay Tibor egyetemi tanár, az
orvostudományok kandidátusa)
(MUSCLES, OCULOMOTOR, surgery,
vertical musc.)

HONAY, Tibor.; STERNBERG, Alice, R.; RAAB, Kornel.

~~XXXXXXXXXXXX~~
Surgery of the vertical oculomotor muscles; II. part.
Szemészet 92 no.4:150-164 Dec 55.

1. A Budapesti Orvostudományi Egyetem II. Szemklinika-jának
közleménye Igazgató: Honay Tibor egyetemi tanár, az orvostudományok
kandidátusa.

(MUSCLES, OCULOMOTOR, paralysis
of vertical, surg., technic & results (Hun))

(STRABISMUS, surg.
vertical strabismus, technic & results (Hun))

NONAY, Tibor, dr.; BOHAR, Anna, dr.

Significance of changes in the fundus oculi in toxoplasmosis. Orv.
hetil. 102 no.32:1511-1512 6 Ag '61.

1. Budapesti Orvostudományi Egyetem, II. Szemklinika.

(TOXOPLASMOSIS diag) (FUNDUS OCULI)

NONCHEV, Ivan

Wages of technicians and mechanics depending on the complexity of
their work. Trud tseni 5 no.2:13-22 '63.

LYAKHOVICH, V.V.; NONESHNIKOVA, V.I.; CHERVINSKAYA, A.D.; ROZANOV, K.I.

Characteristics of the distribution of accessory minerals
in altered granitoids. Krat. soob. IMGRE no.1:30-32 '60.

Accessory minerals in granitoids of the Ural Mountains.
Ibid.:33-34 '60. (MIRA 17:3)

LYAKHOVICH, V.V.; NONESHNIKOVA, V.I.

Accessory minerals in granite intrusions of western Tuva and
vein rocks associated with them. Trudy IMGRE no.7:182-211 '61.
(MIRA 16:11)

LYAKHOVICH, V.V.; NONESHNIKOVA, V.I.; CHERVINSKAYA, A.D.

Some data on accessory minerals of granitoids. Trudy Inst. mib.,
geokhim. i kristallichesk. rad. slon. no. 3:104-126 '59.

(MIRA 14:5)

(Minerals) (Granite)

NONESHNIKOVA. V. I.

31

PHASE I BOOK EXPLOITATION

657/5740

Akademiya nauk SSSR. Institut mineralogii, geochemii i kristallografii redkikh elementov

Voprosy mineralogii, geochemii i genezisa rastorozhdeniy redkikh elementov
(Problems in Mineralogy, Geochemistry, and Deposit Formation of Rare Elements)
Moscow, Izd-vo AN SSSR, 1960. 253 p. (Series: Its: Trudy, vyp. 4) Errata
printed on the inside of back cover. 2,200 copies printed.

Chief Ed.: K. A. Vlasov, Corresponding Member, Academy of Sciences USSR;
Resp. Ed.: V. V. Lyakhovich; Ed. of Publishing House: L. S. Tarasov;
Tech. Ed.: P. S. Kashina.

PURPOSE: This book is intended for geologists, mineralogists, and petrographers.

COVERAGE: This is a collection of 23 articles on the formation, geology,
mineralogy, petrography, and geochemistry of deposits of rare elements in
Siberia and [Soviet] Central Asia. The distribution and characteristics of
rare elements found in these areas as well as some quantitative and qualitat-
tive methods of investigating the rocks and minerals in which they are found.

Card 1/6

31

Problems in Mineralogy (Cont.)

557/5740

or with which they are associated, are discussed. Two articles present an economic investigation of the possibilities of industrial extraction and utilization of selenium, tellurium, and hafnium. No personalities are mentioned. Each article is accompanied by references.

TABLE OF CONTENTS:

GEOCHEMISTRY

Garmash, A. A. Peculiarities in the Distribution of Rare Elements in Polymetallic Deposits of the Zmeinogorsk Region of Rudnyy Altay	3
Semenov, Ye. I. On the Content of Lithium and Rubidium in Minerals of Alkaline Pegmatites of the Lovozerskiy Massif	20
Badalov, S. T., and S. Ruzmatov. On the Geochemistry of Selenium and Tellurium in the Ore Deposits of Alkalyk	24
Gorokhova, V. H. On the Content of Rhenium in Molybdenites of the Kamsharavan Copper-Molybdenum Deposits	28

Card 2/6

Problems in Mineralogy (Cont.)

807/5740

MINERALOGY AND PETROGRAPHY

Yes'kova, Ye. M., and I. I. Emmerenko. Pyrochlore of the Vishnevyye Mountains, Its Paragenetic Associations, and the Peculiarities of Its Chemical Composition	35
Zhabin, A. G., G. N. Kikhitdinov, and M. Ye. Kozakova. Paragenetic Associations of Accessory Minerals of Rare Elements in Excontact Fenitized Micasite Intrusive Rocks of the Vishnevyye Mountains	51
Zhabin, A. G. On the Separation Time of the Minerals Niobium, Zirconium, and the Rare Earths in the Granite Pegmatite of the Blyuzovskaya Mine	74
Sorokov, Ye. I. Celtsirconium in Alkaline Pegmatites	85
Korkin, V. I., Yu. A. Pystenko, and A. V. Bykova. On Britholite of the Alkaline Rocks of Southwestern Tuva	90

Card 5/6

31

Problems in Mineralogy (Cont.)

577/5740

Lyakhovich, V. V., and A. D. Chervinskaya. On the Character of the Distribution of Accessory Minerals in Granite Massifs	94
Lyakhovich, V. V., and V. I. Kozlovskaya. On the Effect of Late Processes on the Content of Accessory Minerals in Granitoids	110
Ivanov, V. V., and O. Ye. Yushmanova. Discovery of Francolite in Yakutiya	151
Zuyev, V. H., and A. V. Kostarin. Yttrofluorite From the Pegmatites of [Soviet] Central Asia	155
Fedorina, Ye. E. Crystallomorphic Forms of Calcite From the Colluvial Deposits of Strontium in the Tadzhikistan SSR	159
GEOLOGY AND MINERALOGY OF THE DEPOSITS OF RARE EARTH ELEMENTS	
Kos'tenko, H. V. Genetic Types of Deposits and Ore Manifestations of Niobium and Tantalum	162

Card 4/6